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## SOLANUM DULCAMARA

AS A MEDICINAL PLANT.

BY JOHN HARLEY, M.D., &c.

THE following is a contribution to the elucidation of a plant which still retains a place in the Pharmacopœias of Great Britain, of France, of Germany, and of the United States.

On the 26th August, 1867, Mr. Buckle, of Gray's Inn Road, expressed for me the juice of thirty-four pounds of fine plants grown in the northern outskirts of London.

The plants were laden with green fruit, and were destitute of roots. The quantity of juice obtained was seventeen imperial pints, weighing twenty-one pounds four ounces = 62·5 per cent. by weight, or 50 by measure. Part of this juice was converted into "*Succus*" in the manner and proportions directed in the Pharmacopœia for *Succus Conii*—but the precipitated matters were not separated;—and part into "*Extract*." Ten pounds of the crude juice yielded fifteen ounces of extract. The evaporation was effected by steam heat, and the temperature was not allowed to rise above 170° Fahr.

On the 21st of September, 1869, I picked from sturdy trailing plants,<sup>1</sup> which grow in the full exposure to the sun on the shingly beach between West Worthing and Goring, in Sussex, forty-two ounces avoidupois of fine, ripe, mucilaginous, thin-skinned berries. They were pulped the same day and mixed in a stoppered bottle with proof spirit acidulated with 2½

<sup>1</sup> Var. *γ marinum*, Babington.

per cent. of dilute (10 per cent.) sulphuric acid, and allowed to macerate for several months at the ordinary temperature of the air. After percolation and exhaustion of the marc, fifty-four fluid ounces of a bright rose-red "*Tincture*" were obtained.

The addition of a trace of sulphuric acid was intended to facilitate the extraction of the dulcamarine. This tincture was of a bitter-sweet, nauseous taste.

1. THE JUICE.—One fluid ounce of this represented one and a half ounce of the herb.

*Obs. 1.*—Mary P—, æt. 50, a tall, well-developed woman, the subject of eczema of the face and paralysis agitans of three years' duration.

Half a grain of conia taken by the mouth was followed by coneism with inability to walk for about an hour. She took two fluid ounces of the *Succus Dulcamarae*, sometimes filtered and sometimes not, on several occasions. Once or twice the unfiltered juice produced a little nausea, but no other effect.

*Obs. 2.*—J. J. H—, æt. 19, a nervous youth, subject to flatulency and colic from weak digestion. He took the unfiltered succus in doses increased from half to two fluid ounces every other day for a month. For the next week he took two fluid ounces of the juice, once a day, twice a day, and thrice a day at 11 a.m., 4 p.m., and 9 p.m.

After each increase of the dose, and at the end of the day after the six fluid ounces were taken, I carefully examined this patient, but could discover no effects induced by the medicine. At first the patient was a little disgusted with the dark brownish-green, thick, nauseous draught, but he became accustomed to it after the first few doses, and there were absolutely no effects, either objective or subjective, beyond a feeling as if he had taken an additional glass of beer, and due simply to alcohol. For example, on the 30th of September, 1867, he took two fluid ounces of the juice at 11 a.m., and again at 4 p.m. In the evening he came up to my house, and after sitting for half an hour the pulse was 84, of good volume and power. Pupils at a measured distance from a given source of light,  $\frac{1}{6}$ " ; directed sideways, nearly  $\frac{1}{4}$ " (these were the normal measurements). The tongue and palate clean and moist. He had not felt any effects from

his previous doses and had eaten heartily. At 8.40 p.m I gave him two fluid ounces more of the juice, and kept him sitting quietly under my observation for two hours. Although the conditions were favorable, neither somnolency, giddiness, feeling of dryness, nausea, nor, indeed, any other effect was appreciable. The pulse remained (under the stimulus of the alcohol, doubtless) at 84. The mouth and tongue were clean and wet, and the pupils unchanged.

Five fluid drachms of *Succus conii* produced moderate coneism of short duration in this patient. Thirty minims of *Succus belladonnæ* caused full atropism ; the pulse attaining a maximum acceleration of 44 beats (numbering 120) ; the nostrils, posterior part of the tongue, the roof of the mouth, the soft palate and back of the pharynx being completely dry and glazed ; the pupils dilated to  $\frac{1}{4}$ "—symptoms which were sustained at their height for more than an hour and then gradually declined. The action was accompanied by a little giddiness and more marked somnolency.

## II. THE EXTRACT.—Thirty-three grains = one fluid ounce of crude juice.

*Obs. 3.*—Alfred L—, æt. 21, troubled with nervous spasm of the gullet ; moderately strong, and like the former patient very susceptible of the action both of hemlock and belladonna.

He took the extract in doses increased from twenty to forty grains thrice a day, for sixteen consecutive days. I closely watched for symptoms as in the previous cases, but failed to observe any deviation from the normal condition. The patient himself, who was accustomed to observe and who would accurately describe the action of other drugs, experienced no effects.

*Obs. 4.*—J. W. W—, æt. 22, a weakly young man, took the extract in the same doses for six days consecutively, with the same absence of result.

## III. TINCTURE OF THE RIPE FRUIT.—One fluid ounce represents 340 grains of the fruit.

*Obs. 5.*—Samuel H—, æt. 9, a fair, well-developed child, the subject of epilepsy. He took the tincture in doses increased from two to twelve fluid drachms, every other day for

a month, without the production of any appreciable effects, immediate or subsequent.

*Obs.* 6.—Frederick G—, æt. 12, also the subject of epilepsy, took the tincture in doses increased from one to six fluid drachms, also without any effect.

*Obs.* 7.—Mary P—, æt. 50 (see *Obs.* 1), took the tincture in doses increased from four fluid drachms to two fluid ounces. The larger doses produced a little giddiness like that which she felt after a glass of gin and water, but beyond this effect the results were entirely negative.

**CONCLUSIONS.**—From the foregoing it appears—1. That a quantity of the juice equal to six and even nine ounces of the fresh herb may be taken daily, and for many days in succession, without appreciable effect. 2. That a quantity of the tincture equal to more than one and a half ounce of the ripe fruit, including the seeds, may be taken for a considerable time, also without appreciable effect. 3. From whence it follows that a decoction or infusion of the dried young branches of the plant (the part directed to be employed in the *Pharmacopœias*) is equally destitute of any active principle soluble in water, for if there were such it would be contained in the expressed juice.

These results are in accordance with those of Dunal and Fages,<sup>1</sup> of Frank<sup>2</sup> and Garrod.<sup>3</sup>

<sup>1</sup> Hist. nat. méd. et econom. des Solan., p. 71 et seq.

<sup>2</sup> Handb. d. Toxicologie, S. 61. 1803.

<sup>3</sup> Essent. Mat. Med., 4th Edition, p. 318.